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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,213	05/21/2001	Hiroji Yoshida	81833.0027	6580
26021	7590	01/08/2004		
HOGAN & HARTSON L.L.P. 500 S. GRAND AVENUE SUITE 1900 LOS ANGELES, CA 90071-2611				
EXAMINER BOYD, JENNIFER A				
ART UNIT		PAPER NUMBER		
1771				

DATE MAILED: 01/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,213

Applicant(s)

YOSHIDA ET AL.

Examiner

Jennifer A Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 4-6 and 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed October 10, 2003, have been entered and carefully considered. Claims 1, 2, and 7 - 9 are amended, claims 4 - 6 and 10 - 12 remain withdrawn and claims 1 - 12 are pending. In view of the Applicant's Amendments, the Examiner withdraws the 35 U.S.C. 102(b) rejection of claims 1 - 3 as being anticipated by Fujimoto (JP 09-078425) as set forth in paragraph 3 of the previous Office Action dated July 16, 2003. In view of the Applicant's Amendments, the Examiner withdraws the 35 U.S.C. 102(e) rejection of claims 7 - 9 as being anticipated by Keck (US 5,874,160) as set forth in paragraph 4 of the previous Office Action dated July 16, 2003. However, after an updated search, the invention as currently claimed is not found to be patentable for reasons herein below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 - 3, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano et al. (US 2002/0016120 A1).

As to claim 1, Nagano teaches a bulky, three-dimensional non-woven fabric

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comprising staple fibers (Abstract and page 2, [0025]). Nagano teaches that thermal bonding of the non-woven by means of thermal adhesive thermoplastic fibers is preferred (page 1, [0017]).

As to claims 2 and 3, Nagano teaches in Example 1 a non-woven fabric where rayon staple fibers and thermal adhesive fibers are mixed and the intersection points of the fibers are adhered by thermal treatment (page 6, [0073]). Nagano teaches a non-woven fabric comprising 40% of rayon fibers having a fiber fineness of 1.5 denier and fiber length of 5 mm and 60% by weight of a eccentric core and sheath type conjugated fiber comprising polypropylene as the core component and high density polyethylene as the sheath component having a fiber fineness of 3 denier and a fiber length of 5 mm (page 6, [0074]). It should be noted that other staple fibers may be used instead of rayon fibers like synthetic fibers such as polyester, nylon and polystyrene (page 1, [0017]) which have a different melting point than the sheath-core fibers.

As to claims 7 and 9, Nagano teaches a non-woven fabric comprising staple fibers (also known in the art as short fibers), having a fiber length of 3 to 25 mm and a single fiber fineness of 1 to 100 denier (Abstract). Nagano teaches that the non-woven fabric has fiber lumps having a volume not less than 1 mm^3 is not more than 5 lumps per 20 grams of the non-woven fabric. Nagano teaches that the non-woven fabric is bulky (Abstract) and three-dimensional (page 2, [0025]). In Example 5, Nagano teaches a non-woven fabric comprising 30% polyester staple fibers and 70% side-by-side conjugated fibers consisting of a polypropylene component and a high density polyethylene component (page 6, [0086]), which is thermally treated to bond the fibers (page 7, [0086]).

Nagano discloses the claimed invention except for that the nonwoven fabric has a Fillet Radius Ratio within a range from 0.95 to 1.05. It should be noted that the Fillet Radius Ratio is a result effective variable. For example, a Fillet Radius Ratio equal to 1 indicates a completely random fiber arrangement. It is 1.00 or less when the directionality approaches the x-axis and for the values above 1.00, the directionality approaches the y-axis. It would have been necessary and obvious to optimize the Fillet Radius Ratio in order to successfully practice the invention of Nagano and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to have a nonwoven fabric with a Fillet Radius Ratio within a range from 0.95 to 1.05 to improve the cleaning capabilities and cushioning properties of the fabric.

4. Claims 7 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (US 6,080,482).

Martin teaches multicomponent filaments fabricated into a three-dimensional aggregations comprising a plurality of filaments, which can be in staple form (column 6, lines 25 – 30). Martin teaches that the filaments are thermoplastic and melt-bondable (column 3, lines 45 – 55) and have a linear density greater than 200 dpf and as much as 10,000 dpf or more (column 5, lines 1 – 5).

Martin discloses the claimed invention except for that the nonwoven fabric has a Fillet Radius Ratio within a range from 0.95 to 1.05. It should be noted that the Fillet Radius Ratio is a result effective variable. For example, a Fillet Radius Ratio equal to 1

indicates a completely random fiber arrangement. It is 1.00 or less when the directionality approaches the x-axis and for the values above 1.00, the directionality approaches the y-axis. It would have been necessary and obvious to optimize the Fillet Radius Ratio in order to successfully practice the invention of Martin and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to have a nonwoven fabric with a Fillet Radius Ratio within a range from 0.95 to 1.05 to improve the cleaning capabilities and cushioning properties of the fabric.

Response to Arguments

5. Applicant's arguments with respect to claims 1 - 3 and 7 - 9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.


Jennifer Boyd
December 29, 2003


CHERYL A. JUSKA
PRIMARY EXAMINER